AMENDMENTS TO THE CLAIMS

Please cancel Claims 1-42 and 54-69; amend Claims 43, 45, 46 and 51; and add new Claims 70-87 as follows.

LISTING OF CLAIMS

1.-42. (cancelled)

43. (currently amended) A heat transport apparatus, comprising:

a plurality of flow paths for a fluid to flow therethrough, for transporting heat generated by a heat source from a hot region to a cold region via said fluid, wherein

a microchannel is formed in a part of said flow paths in a vicinity of said heat source, said flow paths in the microchannel being smaller in size relative to other portions; and

said heat source is mounted in a mounting area that is smaller than an area where the flow paths are provided.

44. (original) The heat transport apparatus according to claim 43, further comprising:

a tube-shaped aluminum member defining a plurality of through-holes formed parallel to each other, said through-holes constituting at least part of said flow paths.

45. (currently amended) The heat transport apparatus according to claim 43, wherein

~~said microchannel is formed by applying an external force and thereby compressing~~ said flow paths are compressed in the vicinity of said heat source.

46. (currently amended) The heat transport apparatus according to claim 44, wherein

~~said microchannel is formed by applying an external force and thereby compressing~~ said flow paths are compressed in the vicinity of said heat source.

47. (original) The heat transport apparatus according to claim 43, wherein

said microchannel is formed of any one of at least one tubular member and at least one rod-like member disposed in said flow paths in the vicinity of said heat source.

48. (original) The heat transport apparatus according to claim 44, wherein

said microchannel is formed of any one of at least one tubular member and at least one rod-like member disposed in said flow paths in the vicinity of said heat source.

49. (original) The heat transport apparatus according to claim 43, wherein said microchannel is formed of a metal defining a cavity which is in communication from one end to the other end in a flow direction of said fluid, the metal being disposed in said flow paths in the vicinity of said heat source.

50. (original) The heat transport apparatus according to claim 44, wherein said microchannel is formed of a metal defining a cavity which is in communication from one end to the other end in a flow direction of said fluid, the metal being disposed in said flow paths in the vicinity of said heat source.

51. (currently amended) The heat transport apparatus according to claim [[47]] 50, wherein said metal [[with]] defining the cavity ~~is formed of~~ comprises a metal selected from the group consisting of a foamed metal, a sintered metal, and a ~~metal formed by~~ thermal ~~spraying~~ sprayed metal.

52. (original) The heat transport apparatus according to claim 43, wherein a flow of said fluid is an oscillating flow with a predetermined cycle and a predetermined amplitude.

53. (original) The heat transport apparatus according to claim 44, wherein a flow of said fluid is an oscillating flow with a predetermined cycle and a predetermined amplitude.

54.-69. (cancelled)

70. (new) The heat transport apparatus according to claim 43, wherein said microchannel is provided only in an area corresponding to the mounting area, among said paths.

71. (new) The heat transport apparatus according to claim 43, wherein said microchannel is provided only in a middle area of each path in a fluid flow direction of each path.

72. (new) The heat transport apparatus according to claim 43, wherein said mounting area of said heat source is approximately equal to an area where said microchannel is provided.

73. (new) The heat transport apparatus according to claim 43, wherein the fluid flows in each flow path continuously.

74. (new) The heat transport apparatus according to claim 43, wherein the heat source is mounted only to the part of the flow paths where the microchannel is formed.

75. (new) A heat transport apparatus comprising:

a heat receiver portion;

a heat-radiating portion;

a plurality of flow paths extending between said heat receiver portion and said heat-radiating portion;

a heat source attached to said heat receiver portion;

a microchannel formed in said flow paths in said heat receiver portion, said microchannel forming flow paths in the heat receiver portion smaller in size than flow paths in said heat-radiating portion.

76. (new) The heat transport apparatus according to claim 75, wherein said microchannel is formed only in said heat receiver portion.

77. (new) The heat transport apparatus according to claim 76, wherein said heat source is attached only to said heat receiver portion.

78. (new) The heat transport apparatus according to claim 75, further comprising:

a tube-shaped aluminum member defining a plurality of through-holes formed parallel to each other, said through-holes constituting at least part of said flow paths.

79. (new) The heat transport apparatus according to claim 78, wherein said flow paths are compressed in said heat receiver portion.

80. (new) The heat transport apparatus according to claim 78, wherein said microchannel is formed of any one of at least one tubular member and at least one rod-like member disposed in said flow paths in said heat receiver portion.

81. (new) The heat transport apparatus according to claim 78, wherein said microchannel is formed of a metal defining a cavity which is in communication from one end to the other end in a flow direction of said fluid, the metal being disposed in said flow paths in said heat receiver portion.

82. (new) The heat transport apparatus according to claim 81, wherein said metal defining the cavity comprises a metal selected from the group consisting of a foamed metal, a sintered metal, and a thermal sprayed metal.

83. (new) The heat transport apparatus according to claim 78, wherein a flow of said fluid is an oscillating flow with a predetermined cycle and a predetermined amplitude.

84. (new) The heat transport apparatus according to claim 75, wherein said microchannel is formed of any one of at least one tubular member and at least one rod-like member disposed in said flow paths in said heat receiver portion.

85. (new) The heat transport apparatus according to claim 75, wherein said microchannel is formed of a metal defining a cavity which is in communication from one end to the other end in a flow direction of said fluid, the metal being disposed in said flow paths in said heat receiver portion.

86. (new) The heat transport apparatus according to claim 75, wherein a flow of said fluid is an oscillating flow with a predetermined cycle and a predetermined amplitude.

87. (new) The heat transport apparatus according to claim 75, wherein said heat source is attached only to said heat receiver portion.